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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,004	08/21/2001	David Charles Ricks	SAIC0017	6091
27510	7590	06/27/2005	EXAMINER	
KILPATRICK STOCKTON LLP 607 14TH STREET, N.W. WASHINGTON, DC 20005			MAI, TAN V	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,004

Applicant(s)

RICKS ET AL.

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 9-11 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 12-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Rejection grounds continue to be set forth in the previous Office action mailed July 30,2004 (Paragraph 2).

3. Claims 1-6, 8, and 12-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Rejection grounds continue to be set forth in the previous Office action mailed July 30,2004 (Paragraph 3).

4. Applicant's arguments filed on 11/30/04 have been fully considered but they are not persuasive.

Applicant, in their remarks, argue that:

(1). "[c]laim 1 is directed to a method of extracting useful data from an observed data set by projecting observed data vectors onto a subspace, where the projection is done in a particular way. One of ordinary skill in the art would understand that the result of the data projection is the extracted useful data. The specification discloses the use of vector subtraction in an original coordinate system to accomplish data extraction through projection onto a subspace, for example

when interference is present (see paragraphs 0055-0056), and claims such a method in claim 1. The claim language stating that the projection onto a subspace is to be accomplished 'as a vector subtraction in an original coordinate system' specifically states how the projection is to be done to extract the data of interest and provides sufficient detail to enable the claim when read in light of the specification, which teaches how to accomplish data projection in this manner (see paragraphs 0051-0056). This limitation specifically teaches how to implement the projection and thus enables the claim. Although prior to this invention one of ordinary skill would not know how to extract useful data by projecting data onto a subspace through vector subtraction in an original coordinate system, one of ordinary skill in the art would know without further guidance how to implement vector subtraction. Thus, the method as claimed, when read in light of the specification and in light of the understanding of one of ordinary skill in the art, is reasonably enabled. For this reason, the undersigned submits that the claim is enabled and respectfully requests that the Examiner withdraw this rejection"; and

(2). "[i]n the rejection, the Office suggests that the claims are mental steps void of any step that results in either (1) a physical transformation of the data, (2) a limitation to a practical application, or (3) a performed specific machine/element. With regard to sustaining a rejection for failure to claim statutory subject matter, MPEP 2106 II.a states:

Office personnel have the burden to establish a prima facie case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. **Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101.**

(Emphasis added). The undersigned respectfully submits that each of the rejected claims recites a limitation to a practical application and therefore should not be rejected under 35 U.S.C. 101. The claims are directed to the practical application of processing observed data to extract information of interest and therefore accomplish a desired practical end.

For example, claim 1 recites in its entirety'.

A method for extracting data of interest from observed vector data, the

method comprising: determining the projection of each vector in observed vector data onto a subspace as a vector subtraction in an original coordinate system.

(Emphasis added). This claim is directed to the practical application of 'extracting data of interest from observed vector data' and thus claims statutory subject matter...

Claims 2-6, 8, and 12-13 are similarly directed to practical application of processes involving observed data. In particular, claim 2 is directed to 'a method for processing a block of discrete data **vectors to obtain a decomposition of the data with respect to a correlation vector.**' The specification teaches as an example that the claimed method results in extraction of data of interest from observed vector data (see paragraphs 0059 - 0063). As discussed above, extraction of data of interest from observed data is analogous but not limited to filtering data to remove noise and therefore constitutes statutory patentable subject material. Claim 3 implements this same method **in a filter**. Claim 4 is directed to 'a method for adaptively analyzing data ... **to estimate that part of the data that best corresponds to a steering vector . . .**' Estimating a part of data the corresponds to a steering vector is a practical limitation that renders the subject material of this claim statutory patentable subject material. Claim 5 similarly is directed to 'a method for adaptively analyzing an observed signal . . . **to estimate that part of the signal that best corresponds to a steering vector . . .**' Claim 6 is directed to a 'method for adaptively analyzing discrete data . . . **to obtain a decomposition of the data based on correlation . . .**' Claim 8 is directed to a 'method for adaptively analyzing an observed signal . . . **to obtain a decomposition of the data based on correlation . . .**' Finally, claim 12 and claim 13, which depends from claim 12, are directed to 'a method for **filtering a signal . . .**' (Emphasis added).

With respect to the arguments, the examiner carefully reviews all the specification and the claimed invention. First, it is noted that "determining" step is corresponding to (paragraphs 0055-0056). The method of "**extracting** useful data from an

observed data" requires (paragraphs 0051-0056). Therefore, the claim language is vague, indefinite and incomplete. Second, the language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis statutory subject matter under 35 U.S.C. 101. The claimed method step(s) can be practiced mentally in conjunction with pen and paper because the step(s) of the method claims do NOT require use of hardware to accomplish the step(s). . It is also noted that the "for extracting data of interest from observed vector data" feature [of claim1] is merely data. It is NOT physical signal. Therefore, the claims are non-statutory and rejected under U.S.C. 101 as not being **tangible**. Similarly noted claim 2, the "vectors to obtain a decomposition of the data with respect to a correlation vector" feature is also data. Similarly noted claims 5-6. The preamble of claim 3 recites "in a filter"; however, the body of claim recites a plurality of calculating steps without hardware. Similarly noted claims 12-13.

Therefore, the rejections are still proper.

5. Claims 1-6, 8, and 12-13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph / 35 U.S.C. 101, set forth in this Office action.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is:

Official (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.


Tan V. Mai
Primary Examiner